

Remarks

The Examiner has rejected claim 16 under 35 U.S.C. §112 first paragraph as failing to comply with the written description requirement. The Examiner has further rejected claims 1, 5, 8, 9, 11, 12 and 14 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,274,423 to Mizuno ("the '423 patent") in view of U.S. Patent No. 4,960,109 to Lele ("the '109 patent") and U.S. Patent No. 6,312,380 to Hoek ("the '380 patent"). The Examiner has still further rejected claim 4 under 35 U.S.C. §103(a) as being unpatentable over the '423 patent in view of the '109 patent and the '380 patent, and further in view of U.S. Patent No. 5,456,682 to Edwards ("the '682 patent"). The Examiner has still further rejected claim 13 under 35 U.S.C. §103(a) as being unpatentable over the '423 patent in view of the '109 patent, and further in view of U.S. Patent No. 4,686,964 to Yunoki ("the '964 patent"). These rejections are respectfully traversed.

The Examiner has submitted that it would have been obvious to one having ordinary skill in the art to provide the '423 patent with a data carrier with outer dimensions smaller than the opening of the recess in an instrument body as taught by the '109 patent. However, applicant respectfully submits that there is no motivation to modify the '423 patent to increase the size of the opening to be larger than the pressure transducer or reduce the size of the pressure transducer such that it is smaller than the opening. Either action will increase the complexity of design and assembly of the catheter disclosed in the '423 patent. The '423 patent is primarily directed toward the assembly of a catheter with a pressure sensor and discloses a specific method for doing so. (Abstract; FIGS. 4-7) For instance, the '423 patent teaches and discloses in FIGS. 4-7 the construction of the catheter. The '423 patent discloses a construction including support member 11 having a flat sensor bed 11b on which insulator layer 13 is placed and then on which sensor 14 is placed. (FIGS. 6 and 7) After these devices are assembled on support member 11, it is inserted into catheter 10, and then the protecting member 22 is applied. (FIGS. 4, 5, 6 and 7)

There is no motivation to modify the method of constructing or the structure of the catheter disclosed and taught in the '423 patent as suggested by the examiner. The modification suggested by the examiner would include either increasing the opening of the recess to accommodate insertion of the sensor, or decreasing the size of the sensor to allow insertion through the present opening. Both of these modifications would tend to increase the complexity of assembling the device. For instance, as seen in FIG. 6, support member 11 with flat sensor bed 11b is fully exposed so that the insulating layer and the sensor may quickly and easily be accessed and assembled. If however, the device is modified such that the insulating layer and sensor may only be externally inserted into the opening after support member 11 is inserted into catheter 10, it will increase the difficulty in accurately placing the sensor over the diaphragm because access to the diaphragm would be severely restricted. Disregarding this primary teaching of the '423 patent would have the tendency to increase rather than decrease the complexity and accuracy of assembly. This is especially so because pressure sensor 14 is supplied with diaphragm 15 which must be placed exactly over opening 11c to facilitate communication with groove 11d, and this would be much more difficult to accomplish in the confined environment as illustrated in FIG. 5 as the examiner has suggested. (FIGS. 3, 6 and 7; Col. 5, lines 9-37).

Therefore, applicant respectfully submits that it would not be obvious to one of ordinary skill in the art to disregard a primary teaching of and modify the '423 patent according to the '109 patent when the suggested modification would result in a method and device that is more difficult to assemble and is more complex.

Applicant further respectfully submits that the suggested combination of the '423 patent with the '109 patent is not obvious because each deal with different types of sensors. The examiner has suggested modifying the '423 patent by the '109 patent which teaches that the data carrier is smaller than the recess opening, and therefore can be externally placed into the recess. It should be noted that the sensor of the '109 patent is a temperature sensor (Col. 5, line 13) while the sensor of the '423 patent is a pressure

sensor (FIGS. 3, 6 and 7; Col. 5, lines 9-37). Where the temperature sensor of the '109 patent does not have to be placed in any particular part of the recess, the pressure sensor of the '423 patent must be exactly positioned. Applicant therefore respectfully submits that it would not be obvious to modify the teaching of the '423 patent which teaches a specific placement method, according to the '109 patent as they deal with different types of sensors having different placement requirements.

Applicant further notes that the '109 patent teaches away from the suggested combination. For instance, the '109 patent teaches that the recess in which the data carrier is located has a recess opening that is larger than the body of the recess. (See FIG. 2). All the claims of the present invention require either an undercut or recess having a recess opening forming a restriction such that the recess opening is smaller than the recess. This provides the advantage that if over time the embedding medium in and around the data carrier that forms a body loosens, it will not fall out of or into the instrument. In contrast, the '109 patent teaches that the "entire probe assembly 3 can be ... enclosed within an insulating material such a polyamide or epoxy resin." (Col. 5, lines 21-24). Applicant therefore respectfully submits that the '109 patent teaches away from the suggested combination.


With regard to claim 16, the examiner has submitted that the specification fails to disclose or illustrate in the figures a recess opening that forms a restriction and is also smaller than the recess. Applicant respectfully submits that the restriction is shown and illustrated in FIGS. 2, 3, 5 and 6. For instance, the restriction in FIGS. 2, 3 and 5 is indicated with the number 28, while in FIG. 6 it is not number but shown as a narrowed point above the recess.

Applicant therefore respectfully submits that a recess opening that forms a restriction and is also smaller than the recess is illustrated in the figures.

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It is respectfully submitted that claims 1, 4, 5, 8, 9, 11-14 and 16 all of the claims remaining in the application, are in order for allowance, and early notice to that effect is respectfully requested.

Respectfully submitted,



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